

IN THE CLAIMS:

Please amend Claims 1, 9, 14, 17, 26, 29, 42, 44 and 48 to read as follows.

A marked-up copy of Claims 1, 9, 14, 17, 26, 29, 42, 44 and 48, showing the changes made thereto, is attached. Note that all claims currently pending in this application, including those not presently being amended, have been reproduced below for the Examiner's convenience.

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- 1.
- (Twice Amended) An image pickup apparatus having a lens group,
comprising:
a ring member for driving a lens;
detection means for detecting a change amount of a rotation of said ring
member;
control means for performing motion/stop control of at least the lens group
along an optical axis in accordance with a detection result by said detection means; and
motion direction setting means for a user to set a desired motion direction of
the lens group relative to the rotation direction of said ring member,
wherein said motion direction setting means comprises a (i) character
generator, (ii) menu setting means, (iii) display means provided in said image pickup
apparatus, (iv) a menu function control unit for controlling said character generator in
accordance with the operation state of said menu setting means operated by the user, and
for displaying a predetermined menu on a display screen of the display means, and (v)
setting means for selecting a desired setting item among a plurality of items displayed on

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the predetermined menu and setting a condition regarding the motion direction of the lens group.

2. An image pickup apparatus according to claim 1, wherein the lens group includes a magnification lens and said motion direction setting means comprises: an operation switch capable of being operated by an user; and change means for changing the motion direction of the lens group relative to the rotation direction of said ring member in accordance with the operation state of said operation switch.
3. An image pickup apparatus according to claim 2, wherein a lens unit is made removable relative to the main body of the image pickup apparatus.
4. An image pickup apparatus according to claim 3, wherein said ring member is disposed concentrically about an optical axis of said lens group.
5. An image pickup apparatus according to claim 1, wherein the lens group includes a magnification lens and said motion direction setting means comprises: memory means for storing motion direction information of the lens group relative to the rotation of said ring member, the motion direction being given by a user; and change means for changing the motion direction of the lens group in accordance with the motion direction information stored in said memory means.

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6. An image pickup apparatus according to claim 5, wherein a lens unit
is made removable relative to the main body of the image pickup apparatus.

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7. An image pickup apparatus according to claim 6, wherein said ring
member is disposed concentrically about an optical axis of said lens group.

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9. (Amended) An image pickup apparatus according to claim 1,
wherein a lens unit is made removable relative to the main body of the image pickup
apparatus.

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10. An image pickup apparatus according to claim 9, wherein said ring
member is disposed concentrically about an optical axis of said lens group.

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11. An image pickup apparatus according to claim 1, wherein a lens unit
is made removable relative to the main body of the image pickup apparatus.

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12. An image pickup apparatus according to claim 11, wherein said ring
member is disposed concentrically about an optical axis of said lens group.

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13. An image pickup apparatus according to claim 1, wherein said ring
member is disposed concentrically about an optical axis of a lens unit.

~~14.~~ (Twice Amended) An image pickup apparatus having (i) a camera part, and (ii) a lens part with a magnification lens and a ring member that drives the lens part, comprising:

~~detection means which detects a change amount of a rotation of the ring member for driving the lens part;~~

~~control means for selecting and determining a response characteristic between an output of said detection means and a motion of the magnification lens, and for controlling motion/stop of at least the magnification lens along an optical axis in accordance with an output of said detection means; and~~

~~storing means, provided in said camera part, for storing information of the response characteristic transmitted from the lens part.~~

~~15. An image pickup apparatus according to claim 14, wherein the plurality of characteristics of said control means include a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to be constant and a second characteristic for controlling a motion speed of the magnification lens to be variable in accordance with a rotation speed of the ring member.~~

~~16. An image pickup apparatus according to claim 14, wherein the plurality of characteristics of said control means include a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to become a first predetermined amount and a second characteristic for controlling a motion~~

C7 amount of the magnification lens per unit rotation of the ring member to become a second predetermined amount different from the first predetermined amount.

C8 17. (Twice Amended) An image pickup apparatus having (i) a camera part, and (ii) a lens part with a magnification lens and a ring member that drives the lens part, comprising:

B4 detection means which detects a change amount of a rotation the ring member for driving the lens part; control means providing a plurality of characteristics each settable by a user for selecting and determining a response characteristic between an output of said detection means and a motion of the magnification lens, and for controlling motion/stop of at least the magnification lens along an optical axis in accordance with an output of said detection means; and

storing means, provided in said camera part, for storing information of the response characteristic transmitted from the lens part.

C9 18. An image pickup apparatus according to claim 17, wherein the plurality of characteristics of said control means include a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to be constant and a second characteristic for controlling a motion speed of the magnification lens to be variable in accordance with a rotation speed of the ring member.

19. An image pickup apparatus according to claim 18, wherein the characteristic of said control means is changed in accordance with the state of an operation switch capable of being operated upon by a user.

20. An image pickup apparatus according to claim 18, wherein the characteristic of said control means is changed in accordance with information of the characteristic of said control means set by a user.

21. An image pickup apparatus according to claim 18, wherein the characteristic of said control means is changed in accordance with a photographing state.

22. An image pickup apparatus according to claim 17, wherein the plurality of characteristics of said control means include a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to become a first predetermined amount and a second characteristic for controlling a motion amount of the magnification lens per unit rotation of the ring member to become a second predetermined amount different from the first predetermined amount.

23. An image pickup apparatus according to claim 22, wherein the characteristic of said control means is changed in accordance with the state of an operation switch capable of being operated upon by a user.

24. An image pickup apparatus according to claim 22, wherein the characteristic of said control means is changed in accordance with information of the characteristic of said control means set by a user.

25. An image pickup apparatus according to claim 22, wherein the characteristic of said control means is changed in accordance with a photographing state.

26. (Twice Amended) An image pickup apparatus having (i) an image pickup apparatus main body and (ii) a lens unit which has a magnification lens and a ring member disposed concentrically about a lens optical axis, comprising:

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detection means for detecting a change amount of a rotation of the ring member disposed concentrically about the lens optical axis;

all
control means for selecting and determining a response characteristic between an output of said detection means and a motion of the magnification lens, said control means for controlling motion/stop of at least the magnification lens along the optical axis in accordance with an output of said detection means; and

outputting means for outputting information of the response characteristic from said lens unit to storing means in said main body.

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27. An image pickup apparatus according to claim 26, wherein the plurality of characteristics of said control means include a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to

be constant and a second characteristic for controlling a motion speed of the magnification lens to be variable in accordance with a rotation speed of the ring member.

28. An image pickup apparatus according to claim 26, wherein the plurality of characteristics of said control means include a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to become a first predetermined amount and a second characteristic for controlling a motion amount of the magnification lens per unit rotation of the ring member to become a second predetermined amount different from the first predetermined amount.

29. (Twice Amended) An image pickup apparatus having (i) a camera body, and (ii) a lens unit which has a magnification lens and a ring member disposed concentrically about a lens optical axis, comprising:

detection means for detecting a change amount of a rotation of the ring

member disposed concentrically about the lens optical axis;

control means for selecting and determining a response characteristic between an output of said detection means and a motion of the magnification lens;

setting means for a user to set the characteristic of said control means; and

outputting means for outputting information of the response characteristic from said lens unit to said camera body,

wherein a motion/stop of at least the magnification lens is controlled along the optical axis in accordance with an output of said detection means.

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30. An image pickup apparatus according to claim 29, wherein the plurality of characteristics of said control means include a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to be constant and a second characteristic for controlling a motion speed of the magnification lens to be variable in accordance with a rotation speed of the ring member.

31. An image pickup apparatus according to claim 30, further comprising:

an operation switch capable of being operated upon by a user; and change means for changing the characteristic of said control means in accordance with a state of said operation switch.

32. An image pickup apparatus according to claim 31, wherein said change means changes the characteristic of said control means in accordance with information of the characteristic of said control means set by a user.

33. An image pickup apparatus according to claim 32, wherein said change means changes the characteristic of said control means in accordance with a photographing state.

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34. An image pickup apparatus according to claim 29, wherein the plurality of characteristics of said control means include a first characteristic for controlling a motion amount of the magnification lens per unit rotation of at least the ring member to

become a first predetermined amount and a second characteristic for controlling a motion amount of the magnification lens per unit rotation of the ring member to become a second predetermined amount different from the first predetermined amount.

35. An image pickup apparatus according to claim 34, further comprising:

an operation switch capable of being operated upon by a user; and
change means for changing the characteristic of said control means in accordance with a state of said operation switch

36. An image pickup apparatus according to claim 35, wherein said change means changes the characteristic of said control means in accordance with information of the characteristic of said control means set by a user.

37. An image pickup apparatus according to claim 36, wherein said change means changes the characteristic of said control means in accordance with a photographing state.

38. An image pickup apparatus according to claim 26, wherein the lens unit is removable mounted on the image pickup apparatus main body.

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40. An image pickup apparatus according to claim 14, wherein the ring member is disposed concentrically about said lens group.

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41. An image pickup apparatus according to claim 17, wherein the ring member is disposed concentrically about said lens group.

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42. (Amended) An image pickup apparatus comprising:
a ring member disposed concentrically about a lens optical axis of a lens unit;
detection means for detecting a change amount of rotation of said ring member;
control means for performing motion/stop control of at least a magnification lens group along the optical axis in accordance with a detection result by said detection means; and
inhibition means for inhibiting the magnification lens to stop during a predetermined period in the state that said detection means does not detect the amount of rotation.

43. An image pickup apparatus according to claim 42, wherein the lens unit is removably and exchangeably mounted on a main body of the image pickup apparatus.

44. (Amended) An image pickup apparatus comprising:

a ring member disposed concentrically about a lens optical axis of a lens unit;

28 detection means for detecting a change amount of rotation of said ring member;

control means for determining motion direction and speed of a magnification lens group in accordance with an output of said detection means and performing motion/stop control of the magnification lens group along the optical axis; and

38 change means for changing a sensitivity of the motion of the magnification lens group relative to a detection result of said detection means so as to change a reference amount of rotation of said ring member for permitting/inhibiting the motion of the magnification lens group.

45. An image pickup apparatus according to claim 44, wherein said lens group is removably and exchangeably mounted on a main body of the image pickup apparatus.

47. An image pickup apparatus according to claim 44, wherein said change means changes the motion speed of the magnification lens group relative to an output of said detection means.

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48. (Twice Amended) An image pickup apparatus having a magnification lens group, comprising:

a ring member disposed concentrically about a lens optical axis;

detection means for detecting a change amount of a rotation of said ring member;

control means for determining motion direction and a speed of the magnification lens group in accordance with an output from said detection means, and for performing motion/stop control of the magnification lens group along the optical axis; and

change means for changing a sensitivity of the motion of the magnification lens group relative to a detection result of said detection means in accordance with a photographing state.

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49. An image pickup apparatus according to claim 48, wherein said lens group is removably and exchangeably mounted on a main body of the image pickup apparatus.

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50. (Amended) An image pickup apparatus according to claim 48, wherein said change means changes the motion speed of the magnification lens group relative to an output of said detection means.